

REMARKS

Claims 1-18 and 22-83 are in the case and presented for reconsideration.

Claims 1, 50, 61-66, 79 and 80 have been amended to clarify the claimed invention.

Rejections under 35 U.S.C. § 103

1. Claims 1-18, 22-32, 36-53, 57-59, 61, 62 and 73-83 were rejected under 35 U.S.C. § 103(a) as being obvious over Madrange nee Dermain et al. (US 4,173,627, hereinafter "Madrange"). Applicants submit that the amendment to the claims overcomes this rejection.

Madrange discloses a hair spray fixative composition that is partially in the liquid phase and partially in the gaseous phase comprising at least one of: a) from 0-94 weight % of a lower alkanol such as ethanol, propanol, isopropanol or butanol; b) from 0-35 weight % of a solvent selected from 1,1,1-trichloroethane and methylene chloride; or c) from 0-25 weight % of a diluent selected from a ketone (such as acetone or MEK), an alkyl acetate (such as methyl acetate or ethyl acetate) or a hydrocarbon (such as a C3-C7 alkane); and always present constituent d) 5-30 weight % of a flammability reducing agent selected from bromotrifluoromethane. The lower end of the range corresponds to the case where the flammability reducing agent is used as a partial propellant and the upper range corresponds to the case where the flammability reducing agent only is used as the propellant.

The problem that Madrange sought to solve was the flammability of standard hair lacquers containing flammable constituents, such as butane or isobutane (typically used as propellants). A problem with the composition of Madrange is that the aerosol canister nozzle must be of a special construction to have good atomization and flow from the aerosol canister, column 2, lines 55-67.

Applicants submit that the presently claimed invention of claims 1-18, 22-32, 36-53, 57-59, 61, 62 and 73-83 is patentably distinguishable over Madrange. Although Madrange discloses and exemplifies ethanol as a constituent, methyl acetate is presented along with a laundry list of other possible diluents that may be present in the hair spray fixative composition, but methyl acetate is not exemplified. Applicants submit

that Madrange teaches only that each (ethanol or methyl acetate) may present in a hair fixative composition individually and not in combination, as is presently claimed.

The examiner maintains that since Madrange discloses at least one of a)-c) is present in the composition one skilled in the art would have been motivated to have at least two in the liquid phase. Applicants agree with the examiner, and in fact, the examples of Madrange clearly indicate such. The examples of Madrange indicate as follows:

Example 1 - 22 weight % of (a); 35 weight % of (b); and 20 weight % of (c) as isobutane.

Example 2 - 32.5 weight % of (a); 35 wpt of (b); and 10 weight % of (c) as butane/propane.

Example 3 - 17.5 weight % of (a); and 35 weight % of (b).

Example 4 - 22 weight % of (a); 35 weight % of (b) and 20 weight % of (c) as pentane/isopentane.

Example 5 - 21.5 weight % of (a); and 35 weight % of (b).

Example 6 - 27.5 weight % of (a) and 35 weight % of (b).

However, it is equally clear from the teaching of Madrange that hydrocarbons were the only diluent considered by Madrange to be of concern. This is clearly what one skilled in the art would understand since the objective of Madrange was to reduce the flammability of standard hair lacquers. Methyl acetate is 2-3 times less volatile (i.e., it takes a greater concentration of methyl acetate to propagate a flame) than any of the other specified diluents. Although the examiner maintains that one skilled in the art would be motivated by Madrange to combine ethanol and methyl acetate in a hair fixative composition, Applicants respectfully disagree. Madrange clearly does not provide any motivation for using a combination of ethanol and methyl acetate in a hair fixative composition particularly since there is no expectation that such a combination would work and it would be contrary to the stated objective of Madrange.

Additionally, Madrange always utilizes a brominated flammability reducing agent, which is not be included in the presently claimed invention.

Accordingly, for the reasons discussed above, Applicants respectfully submit that claims 1-18, 22-32, 36-53, 57-59, 61, 62 and 73-83 are patentably distinguishable over Madrange (U.S. 4,173,627) and respectfully request the rejection to be withdrawn.

2. Claims 1-18, 22-32, 36-53, 57-59, 61, 62 and 73-83 were rejected under 35 U.S.C. § 103(a) as being obvious over Madrange (US 4,173,627) in view of JP 08187277. Applicants submit that the amendment to the claims overcomes this rejection.

Applicants incorporate the arguments regarding the patentability of the currently claimed invention over Madrange presented above and submits that JP Kokai publication no. 08187277 would not motivate one skilled in the art to modify the teachings of Madrange to derive the presently claimed invention.

JP 08187277 discloses adding from 0.1 to 10 weight %, based on the weight of the alcohol, of an agent comprising an aliphatic ester for masking the irritating alcohol odor in alcohol based perfumes, cosmetics and food/beverage products. Although JP 08187277 discloses methyl acetate as a means for masking alcohol odors in specific products, the concentration of methyl acetate presented is, at most, less than 10 weight %, based on the weight of the alcohol. This is equal to about 5.5 weight % which is substantially less than what is currently claimed and is still within the parameters prescribed by Madrange. Applicants submit that nothing in Madrange or JP 08187277 would motivate one skilled in the art to use a concentration of methyl acetate greater than 5.5 weight %. Applicants submit that JP 08187277 teaches away from having a concentration of methyl acetate greater than 10 weight %, based on the weight of the alcohol, noting that at such greater concentrations the solvent effect of the ethanol could be compromised. Lastly, nothing in JP 08187277 would motivate one skilled in the art to remove from the hair fixative composition of Madrange the always present brominated flame retardant. This would be completely contrary to the teaching of Madrange. Accordingly, claims 1-18, 22-32, 36-53, 57-59, 61, 62 and 73-83 are patentably distinguishable over the combination of US 4,173,627 in view of JP 08187277. Applicants respectfully request that the rejection to be withdrawn.

3. Claims 33-35, 56, 60 and 63-72 were rejected under 35 U.S.C. § 103(a) as being obvious over Madrange (US 4,173,627) in view of JP 08187277 and further in view of

Chuang et al. (U.S. 5,830,439, hereinafter "Chuang"). Applicants submit that the amendment to the claims overcomes this rejection.

Applicants incorporate the arguments regarding the patentability of the currently claimed invention over Madrange in view of JP Kokai publication no. 08187277 and submits that Chuang would not motivate one skilled in the art to modify the teachings of Madrange and/or JP 08187277 to derive the presently claimed invention.

Chuang discloses a hydrocarbon tolerant, aerosol hair spray composition which includes a fixative polymer which is a terpolymer resin consisting essentially of (a) about 15-45 weight % vinyl acetate, (b) about 5-40 weight % vinyl neononanoate or vinyl neodecanoate, (c) about 30-55 weight % mono-isobutyl maleate, and (d) 1-10 weight % isobornyl acrylate, N-t-butylacrylamide or N-t-octylacrylamide. The problem that Chuang sought to solve was to have a good aerosol hair spray that would exhibit good holding characteristics, would not clog the spray nozzle, would avoid dusting and flaking when the hair is brushed and would remain clear, transparent and glossy on aging, and would be easily removed with regular shampoos. The examiner notes that Chuang teaches that the fixative can be dissolved in an inert carrier such as ethanol or an aqueous ethanol solution and further that Chuang teach using conventional propellants such as a 20/80 blend of propane/isobutane, dimethyl ether and difluoroethane, and other propellants.

Applicants submit that Chuang would not motivate one skilled in the art to modify the teaching of Madrange either alone or in combination with JP 08187277 since it does not provide a reasonable expectation of success that a combination of methyl acetate and ethanol could be combined in the claimed concentrations to provide a hair care composition as is presently claimed. Moreover, Chuang does not motivate one skilled in the art to modify Madrange to eliminate the inflammability retardant. Applicants submit that Madrange in view of Chuang further supports such a inflammability retardant by clearly noting that the hair composition of Chaung is a hydrocarbon tolerant, aerosol hair spray composition, which were the compositions exemplified in Madrange.

Accordingly, Applicants submit that claims 33-35, 56, 60 and 63-72 are patentably distinguishable over Madrange (US 4,173,627) in view of JP 08187277 and further in view of Chuang et al. (U.S. 5,830,439), and respectfully request that the rejection to be withdrawn.

4. Claims 54 and 55 were rejected under 35 U.S.C. § 103(a) as being obvious over Madrange (US 4,173,627) in view of JP 08187277 and further in view of Morawsky et al. (U.S. 5,599,524, hereinafter "Morawsky"). Applicants submit that the amendment to the claims overcomes this rejection.

Applicants incorporate the arguments regarding the patentability of the currently claimed invention over Madrange in view of JP Kokai publication no. 08187277 and submits that Morawsky would not motivate one skilled in the art to modify the teachings of Madrange and/or JP 08187277 to derive the presently claimed invention.

Morawsky discloses a hair spray composition comprising from 2-20 weight % of a fixative, from 0.6 to 5 weight % of one or more hydrophobic additives selected from hexamethyl disiloxane, bisphenyl hexamethicone and isocetyl alcohol, and 80 weight % or less of a volatile organic compound and the balance being water. The problem that Morawsky sought to solve was to improve the spray characteristics of a hair spray containing water and less than 80 weight % VOCs. Morawsky discovered that without the hydrophobic additives in the hair spray composition, many standard resins, when delivered by an aerosol system would foam at the actuator valve and on the hair. This problem was also recognized by Madrange. The difference is that Madrange utilized a special spray nozzle and Morawsky instead modified the surface tension of the hair fixative polymer, column 2, lines 1-3.

Applicants submit that Morawsky does not teach or suggest the hair fixative composition as is presently claimed. Moreover, Morawsky would not motivate one skilled in the art to modify either Madrange or JP 08187277, either alone or in combination, to derive the presently claimed invention. Although Morawsky teaches some of the same hair resins, Morawsky does not teach or suggest a hair composition having both ethanol and methyl acetate in the claimed concentrations or that Madrange should be modified to eliminate the brominated inflammability retardant.

Applicants submit that Morawsky is not properly combinable with Madrange since Madrange teaches having a high level of hydrocarbons and Morawsky teaches using a level of VOCs of less than 80 weight % and preferably less than 55 weight %. At most, Madrange in view of Morawsky would suggest the addition of hydrophobic additives into the hair fixative composition of Madrange to improve the spray characteristics and to address the commonly recognized problem of foaming at the spray nozzle. However, Madrange in view of JP 08187277 and further in view of Morawsky et al. does not teach or suggest the presently claimed invention or motivate one skill in the art to remove the inflammability retardant as taught by Madrange.

Accordingly, Applicants submit that claims 54 and 55 are patentably distinguishable over Madrange (US 4,173,627) in view of JP 08187277 and further in view of Morawsky et al. (U.S. 5,599,524) and respectfully request that the rejection to be withdrawn.

5. Claims 1-18, 22, 23, 27-51, 56, 57, 61-68 and 76-83 were rejected under 35 U.S.C. § 103(a) as being obvious over Heeb et al. (U.S. 4,243,548, hereinafter "Heeb") in view of JP 08187277. Applicants submit that the amendment to the claims overcomes this rejection.

Heeb discloses a homogeneous, single phase, self-propellant spray composition having at least 50 weight % of non-combustible constituents. Solvents that are suitable for the propellant gases include acetone, ethyl methyl ketone, diethyl ether, dimethoxymethane, diethyl carbonate, ethyl alcohol, n-propanol, isopropanol, methyl acetate, ethyl acetate, methoxyacetone, hydroxyacetone, methylisopropyl ketone, diacetone alcohol, dichloroethylene, ethyl chloride, 1,1-dichloroethane and 1-chlorobutane. However, Heeb does not teach or suggest ethanol and methyl acetate in a hair fixative composition. Although the examiner maintains that JP 08187277 motivates one skilled in the art to substitute methyl acetate for ethyl acetate in Heeb, Applicants submit that Heeb teaches the equivalence of ethyl acetate and methyl acetate, see column 8, lines 26-35, but both are used only up to 4.36 weight % and must be accompanied with 1,1,1-trichloroethane only.

Moreover, the problem that Heeb sought to solve was to make a single-phase, aerosol containing at least 55 weight % of non-combustible constituents. JP 08187277 was directed to masking the lower alkyl alcohol odor using methyl acetate, however, both Heeb and JP 08187277 use less than 10 weight % methyl acetate in any composition and Heeb teaches that methyl acetate must be accompanied by 1,1,1-trichloroethane. Thus, one skilled in the art would not be motivated by either Heeb alone or in combination with JP 08187277 to derive the presently claimed invention.

The examiner further maintains that the amounts of the individual constituents presented in the various cited references are optimizable parameters obtainable through routine experimentation. Applicants respectfully submit that the examiner is mistaken. As can be seen from the cited references, adjusting one or more constituents or their respective concentrations can result formulations that foam or are overly flammable, requiring additional constituents to be added. Additionally, as can be seen by Heeb, methyl acetate is used only in combination with 1,1,1-trichloroethane, and Madrange teaches using either ethanol or methyl acetate in a aerosol composition but clearly not both. Thus, such ranges are not just optimizable parameters.

Accordingly, for the reasons discussed above, Applicants respectfully submit that claims 1-18, 22, 23, 27-51, 56, 57, 61-68 and 76-83 are patentably distinguishable over Heeb et al. (U.S. 4,243,548) in view of JP 08187277 and respectfully request the rejection to be withdrawn.

In view of the amendments to the claims and the reasons presented above, Applicants submit that claims 1-18, 22-83 are patentably distinguishable over the cited references, either alone or in combination and respectfully request the examiner to withdraw the earlier rejections and pass the application to allowance at the examiner's earliest convenience.

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Respectfully submitted,

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